WHAT IS CLAIMED IS:

1. A method of wireless data communication, the method comprising the steps of:

encoding a plurality of data bits;

transmitting and receiving the plurality of encoded data bits;

decoding the transmitted and received plurality of encoded data bits, in a manner de emphasizing a subset of the plurality of received bits based on an estimate of the likelihood of the subset of received bits having been received correctly.

2. The method of claim 1, wherein data bits having a low likelihood of having been received correctly are ignored.

3. The method of claim 1, wherein the likelihood estimate is determined based upon knowledge that certain bits will be undesirable for a selected transmission environment.

4. The method of claim 1, wherein the likelihood estimate is determined based upon a list of frequency bins to be punctured.

5. The method of claim 1, wherein the likelihood estimate is determined based upon noise or spur levels in one or more of a plurality of frequency bins.

6. The method of claim 1, wherein the likelihood estimate is determined based upon known training patterns to determine which bits will be undesirable, wherein the training patterns are received and examined to find a statistics of errors.

7. The method of claim 1, wherein the likelihood estimate is determined based upon an error rate among training patterns.

8. The method of claim 1, wherein the likelihood estimate is determined based upon channel characteristics.

9. The method of claim 1, wherein the likelihood estimate is determined based upon the power level and received noise statistics for selected channels in a multi-carrier environment.

10. The method of claim 1, wherein the likelihood estimate is determined based upon checking a SNR of each of a plurality of bins and weighting accordingly using Maximum Likelihood criteria, derived from before or after decoding.

11. The method of claim 1, wherein the likelihood estimate is determined based upon an analog gain setting in one or more of a plurality of frequency bins.

12. The method of claim 1, wherein the likelihood estimate changes based upon a change to a determined frequency hopping interferer.

13. The method of claim 1, wherein the likelihood estimate is based upon interpolating frequency bins selected for puncturing based on frequency offset estimation.

14. A method of determining a plurality of weights used for decoding a respective plurality of signals within a respective plurality of frequency bins, the method comprising the steps of:

determining a dynamic weight for each of the respective plurality of signals within the respective plurality of frequency bins;

determining a static weight for each of the respective plurality of signals within the respective plurality of frequency bins; and

combining the dynamic weight and the static weight for each of the respective plurality of signals within the respective plurality of frequency bins to determine the plurality of weights.

15. A method according to claim 14 further including the step of applying the plurality of weights to a respective plurality of bit metrics associated with the respective plurality of signals during a Viterbi decoding process.

16. A method according to claim 15 wherein the step of determining the dynamic weight compares a channel estimate with a normalized signal value.

17. A method according to claim 15 wherein the step of determining the static weight includes the step of determining an interfering frequency caused by interfering circuit noise.

18. A method according to claim 15 wherein the step of determining the static weight includes the steps of:

selecting an initial static weight from a predetermined static weight table for the frequency bin of interest; and

interpolating the initial static weight based upon at least one predefined operational characteristic to obtain the static weight for the frequency bin of interest.

19. A method according to claim 18 wherein the operational characteristic is data rate.

20. A method according to claim 18 wherein the operational characteristic is amplifier gain.

21. A method according to claim 18 wherein the operational characteristic is frequency offset.

22. A method according to claim 14 wherein the step of determining the dynamic weight compares a channel estimate with a normalized signal value.

23. A method according to claim 14 wherein the step of determining the static weight includes the step of determining an interfering frequency caused by interfering circuit noise.

24. A method according to claim 14 wherein the step of determining the static weight includes the steps of:

selecting an initial static weight from a predetermined static weight table for the frequency bin of interest; and

interpolating the initial static weight based upon at least one predefined operational characteristic to obtain the static weight for the frequency bin of interest.

25. A method according to claim 24 wherein the operational characteristic is data rate.

26. A method according to claim 24 wherein the operational characteristic is amplifier gain.

27. A method according to claim 24 wherein the operational characteristic is frequency offset.

28. An apparatus for determining a plurality of weights used for decoding a respective plurality of signals within a respective plurality of frequency bins, the apparatus comprising:

means for determining a dynamic weight for each of the respective plurality of signals within the respective plurality of frequency bins;

means for determining a static weight for each of the respective plurality of signals within the respective plurality of frequency bins; and

a combiner for combining the dynamic weight and the static weight for each of the respective plurality of signals within the respective plurality of frequency bins to determine the plurality of weights.

29. An apparatus according to claim 28 wherein the means for determining the dynamic weight includes:

a channel estimator that provides a channel estimate for the frequency bin of interest; and

a normalization circuit that uses the channel estimate and an estimated channel value to determine the dynamic weight.

30. An apparatus according to claim 28 wherein the means for determining the static weight includes:

a predetermined static weight table that provides, for the frequency bin of interest, an initial static weight; and

an interpolator for interpolating the initial static weight based upon at least one predefined operational characteristic to obtain the static weight for the frequency bin of interest.

31. A method of applying a plurality of weights used for decoding a respective plurality of signals within a respective plurality of frequency bins, the method comprising the steps of:

determining a weight for each of the respective plurality of signals within the respective plurality of frequency bins based in part on a channel estimate; and

applying each weight to bit metrics associated with one of the respective plurality of signals during a Viterbi decoding process.

32. A method according to claim 31 wherein the weight applied to bit metrics is used in determining how to proceed to a next state of a trellis established by the Viterbi decoding process.

33. A method according to claim 31 wherein the at least one of the weights applied is unity.

34. A method according to claim 31 wherein the at least one of the weights applied is zero.

35. A method according to claim 31 wherein the at least one of the weights applied has a value between unity and zero.

36. A method according to claim 31 wherein the weight is also determined based upon decision directed feedback.

37. A method of determining a plurality of weights used for decoding a respective plurality of signals within a respective plurality of frequency bins, the method comprising the steps of:

determining a weight for each of the respective plurality of signals within the respective plurality of frequency bins based in part on feedback received from previously decoded signals; and

applying each weight to bit metrics associated with one of the respective plurality of signals during a Viterbi decoding process.

38. A method according to claim 37 wherein the feedback received from previously decoded signals is obtained using the steps of:

comparing received and undecoded signals with received, decoded, and re-encoded signals to obtain comparison signals; and

using the comparison signals to determine the weight for subsequently received signals.

39. A method according to claim 38 wherein the comparison signals are used to estimate the per-bin signal to noise ratio, which is then used to determine the weight for subsequently received signals.

40. A method of determining a plurality of weights used for decoding a respective plurality of signals within a respective plurality of frequency bins, the method comprising the steps of:

determining a weight for each of the respective plurality of signals within the respective plurality of frequency bins based in part on feedback received from previously received signals; and

applying each weight to bit metrics associated with one of the respective plurality of signals during a Viterbi decoding process.

41. A method according to claim 37 wherein the feedback received from previously received signals is obtained using the steps of:

obtaining estimated signals from undecoded previously received signals;

comparing the undecoded previously received signals with the estimated signals to obtain comparison signals; and

using the comparison signals to determine the weight for subsequently received signals.

42. A method according to claim 41 wherein the comparison signals are used to estimate the per-bin signal to noise ratio, which is then used to determine the weight for subsequently received signals.